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METAL TRANSFER IN ARC WELDING

ABSTRACT OF THE DISCLOSURE

A double pulse welding current method is disclosed for the generation and transfer of droplets of welding metal from an electrode wire to a workpiece in an arc welding process. A suitable background direct current level is specified to deliver a desired number of droplets to the weld site. During each cycle of droplet formation and transfer, a first increased current pulse is applied to the electrode and arc to generate a droplet on the tip of and electrode and then a second further increased current pulse is applied to timely separate the droplet from the electrode for transport in the arc to the workpiece. This double-pulse current application reliably produces one droplet per cycle of pulses to deliver a specified number of droplets to the weld site for improved weld quality and reduced spatter or waste of weld metal.